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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,370	06/03/2005	Siegfried Ruthardt	R.305551	2637

2119 7590 10/26/2006  
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ALEXANDRIA, VA 22314

EXAMINER
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FRISTOE JR, JOHN K

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/537,370

Applicant(s)

RUTHARDT ET AL.

Examiner

John K. Fristoe Jr.

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 June 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/3/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement filed 6/3/2005 is acknowledged by the examiner.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “diaphragm or bellows seal” recited in line 2 of claims 14-16, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 8-13 and 17-26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,129,489 (Majima et al.). Majima et al. discloses a valve for controlling fluids comprising a holder body (59), a receptacle (within element 59 in figure 3), a piezoelectric actuator unit (67FL), a hydraulic coupler module (69, 71, 71a), a positioning piston (69), an actuating piston (71a), a hydraulic coupler (71), a valve closure member (77), at least one valve seat (71c), a valve chamber (55), a return conduit (88c), a seal (69b) which is an o-ring, an annular groove (holds element 69b in figure 6), an annular collar (upper half of element 69 in figure 3), a positioning washer (lower portion of element 69 in figure 3), wherein the receptacle (within element 59 in figure 3) has a first diameter (upper portion of element 59 in figure 3) and a second diameter (lower portion of element 59 in figure 3), wherein the seal (69b) is in the region of the second diameter (lower portion of element 59 in figure 3), and an insertion bevel (transition between the first diameter and the second diameter in figure 3).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3753

6. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,129,489 (Majima et al.) in view of U.S. pat. No. 4,858,439 (Sawada et al.). Majima et al. discloses a valve for controlling fluids comprising a holder body (59), a receptacle (within element 59 in figure 3), a piezoelectric actuator unit (67FL), a hydraulic coupler module (69, 71, 71a), a positioning piston (69), an actuating piston (71a), a hydraulic coupler (71), a valve closure member (77), at least one valve seat (71c), a valve chamber (55), a return conduit (88c), a seal (69b) which is an o-ring, an annular groove (holds element 69b in figure 6), an annular collar (upper half of element 69 in figure 3), a positioning washer (lower portion of element 69 in figure 3), wherein the receptacle (within element 59 in figure 3) has a first diameter (upper portion of element 59 in figure 3) and a second diameter (lower portion of element 59 in figure 3), wherein the seal (69b) is in the region of the second diameter (lower portion of element 59 in figure 3), and an insertion bevel (transition between the first diameter and the second diameter in figure 3) but lacks the seal being a bellows or diaphragm. Sawada et al. teach a valve for controlling fluids comprising a piezoelectric stack (23), a positioning piston (6), an actuating piston (8), and a bellows seal (11) that guides the position piston (6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the valve for controlling fluids of Majima et al. by replacing the o-ring seal with a bellows seal as taught by Sawada et al. in order to more effectively seal the positioning piston so that the control fluid does not leak into the piezoelectric stack chamber.

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 3753

U.S. Pat. No. 4,762,300 (Inagaki et al.) disclose a piezoelectric actuated valve.


U.S. Pat. No. 5,209,453 (Aota et al.) disclose a piezoelectric actuated valve.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Fristoe Jr. whose telephone number is (571) 272-4926.

The examiner can normally be reached on Monday-Friday, 7:00 a.m.-4:30 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric S. Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John K. Fristoe Jr.  
Examiner  
Art Unit 3753

JKF



ERIC KEASEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700